June 26, 1996

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FEDERAL COMMUNICATIONS COMMISSION

CTIA
Cellular Telecommunications Industry Association
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Washington, D.C. 20036
202-785-0081 Telephone
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Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554

Re: ***Ex parte* Presentation** ET Docket No. 93-62
(Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation)

Dear Mr. Caton:

On Wednesday, June 26, 1996, Mr. Randall Coleman, Vice President, Regulatory Policy and Law, of the Cellular Telecommunications Industry Association sent the attached information to Mr. David Siddall, Legal Advisor to Commissioner Susan Ness, concerning Radio Frequency emissions.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter and the attachment are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

K. L. Simão

Karen Denise Simao

Attachment

0+1

1) To avoid unnecessary speculation regarding material not relevant to the exposure requirements of the proposed regulation, we recommend that when outlining the exposure requirements reference should be made to the specific section of source material. For example:

EXPOSURE REQUIREMENTS

A. MAXIMUM PERMISSIBLE EXPOSURE -- Occupational Exposures

1. MPEs

[INSERT MPE Chart]

2. References

- NCRP Report No. 86 (1986), Section 17.4.1
- ANSI C95.1 (1992), Section 4.1.1

B. MAXIMUM PERMISSIBLE EXPOSURE -- General Population

1. MPEs

[INSERT MPE Chart]

2. References

- NCRP Report No. 86 (1986), Section 17.4.2
- ANSI C95.1 (1992), Section 4.1.1

2) The proposed order needs to address how the new guidelines affect equipment currently in the field. We would suggest that the order incorporate language such as the following:

- This regulation does not reflect concern regarding the safety of existing equipment and should not be so interpreted.

- This regulation applies to covered equipment placed into service after August 8, 1996, as follows:

  - - For previously type approved equipment, no further action will be deemed required by the manufacturer unless specifically requested by the FCC, in which event manufacturer shall demonstrate and certify compliance with this regulation;

  - - For all type approvals, the manufacturer shall demonstrate and certify compliance with this regulation.

- This regulation does not apply to covered equipment already in service.

3) The proposed order should reflect the FCC's preeminent authority over state and local jurisdictions in the regulation of RF emissions as reflected in Section 704 of the Telecommunications Act of 1996.

For example, the order could include language similar to the Chairman's March letter to the Mayor of San Diego on this topic.

4) To mitigate potential public concern that the FCC's adoption of "processing guidelines" rather than "safety standards" may not sufficiently protect public health, the preamble of the proposed order could emphasize that these guidelines combine those specific portions of the present exposure standards recommended -- through a consensus process -- by federal agencies. Suggested language:

> "These FCC specified processing guidelines incorporate specific elements of current guidelines on RF emissions and reflect the consensus judgment of the federal agencies

charged with the protection of the public health and the environment."

5) The FCC is the federal agency charged with prescribing rules for RF emissions. When questions arise requiring expert interpretation beyond the resources of the Commission, the FCC should rely on either or both the IEEE SCC-28 subcommittee or the recently formed committee revising the NCRP guidelines.

6) To assure continued public confidence in the regulatory process, the preamble language could state:

"It should be noted that the fundamental parameters of radio frequency exposure (SAR and SA) have not changed. MPE limits are derived from SAR criteria. The proposed tightening of MPE limits above 1.5 Ghz does not arise from a fundamental change in RF safety criteria, but from a precautionary desire for more rigor in the derivation of factors which allow MPE limits to be derived from SAR limits. Ongoing research and improvements in RF dosimetry will result in increased knowledge of the relationship between MPE and SAR, and future relaxation of the revised MPE limits should not be ruled out if the improved data base supports it."

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

March 15, 1996

Honorable Susan Golding
Mayor
City of San Diego
202 C Street
San Diego, California 92101

Dear Mayor Golding:

This is in response to your February 28 letter concerning digital wireless telephones. As you and I discussed when we spoke, the FCC is very much involved in the creation of a competitive market for wireless telephony, which will bring enormous benefits to the American public and the economy. We have broken previous FCC records for licensing to make the benefits of broadband personal communications services (PCS) available to all Americans as soon as possible. Important among our goals is the accessibility of this new technology to Americans with hearing and speech disabilities. We therefore have taken very seriously the public health and safety claims of which you write. I hope the information provided by the FCC staff your office has contacted, and the additional information set forth below, will assist the City Council in its deliberations in this area.

1. *What are the types and severity of problems the FCC is aware of with resect to interference with hearing aids, electric wheelchairs, pacemakers, automobile brakes, automobile airbags, or other consumer devices, from the use of GSM handsets?*

According to the Commission's Compliance and Information Bureau, Wireless Telecommunications Bureau and Office of Engineering and Technology, the FCC has not received any specific complaints about interference from GSM handsets to medical or safety devices, or other consumer products.

2. *What steps is the FCC (or any other federal agency) taking to address perceptions that PCS technologies may have negative impacts to hearing aids, electric wheelchairs, pacemakers, automobile brakes, automobile airbags or other consumer devices?*

a. *What studies are planned or underway and what are the timelines?*
b. *What organizations are involved in these studies?*
c. *When will study results be available?*
d. *Will the FCC or any other Federal Agency be making a determination of the existence or non-existence of these problems based on the results of the studies?*

In accordance with federal law, it is the FCC's policy as to both PCS antenna installations and digital wireless telephone handsets to establish guidelines to address harmful interference while allowing the market to determine what technologies will succeed and what new products will be made available to consumers. The FCC also takes very seriously its obligations under the Americans with Disabilities Act ("ADA"), and the Telecommunications Act of 1996 (the "1996 Act"), to ensure that telecommunications services, equipment and customer-premises equipment ("CPE") are accessible to consumers with disabilities, and compatible with devices commonly used by consumers with disabilities.

The FCC has conducted extensive rulemaking proceedings on hearing aid compatibility of wireline telephones, pursuant to the Hearing Aid Compatibility Act of 1988 ("HAC Act"). We have rules in place implementing the HAC Act and have proposed additional rules for wireline telephones which would largely implement solutions arrived at by the industry and groups representing individuals with hearing disabilities in a negotiated rulemaking last year. The Commission is considering those proposed rules right now, and I expect some version of them to be adopted in the near future. We deferred consideration of hearing aid compatibility of wireless telephones under the HAC Act pending further study of this issue.

The FCC was made aware of concerns that wireless technologies may cause interference to hearing aids and other medical devices last year, when we were presented with a petition asking us to mandate that wireless telephone technologies be made compatible with such devices. We decided first to see whether solutions to this problem could be reached by discussions among members of the affected industries and consumer groups. Members of the wireless industry, together with representatives of the hearing aid manufacturing industry, hearing aid users, and health care professionals, initiated a process to resolve issues of compatibility and user and bystander interference, which commenced with a Summit Meeting in Washington, D.C., on January 3 and 4, 1996. The Summit group's efforts are continuing through three Working Groups comprised of experts charged with developing recommendations on solutions to interference and compatibility problems. We expect their recommendations to be made public this month.

I anticipate that this group will reach and implement solutions in a timely manner so that all Americans can have access to digital wireless communications. The Commission may ultimately review all solutions to ensure that they uphold the spirit and the letter of all legal obligations to Americans with disabilities. The digital devices which are the subject of these discussions represent a multi-billion dollar investment in our economy by a new, innovative industry serving real needs of American consumers. Should these groups not arrive at standards voluntarily, it is likely that the Commission will shortly initiate a rulemaking to consider mandatory rules.

The FCC will neither endorse nor mandate a particular technology for PCS. Selecting a single technology could stifle innovation and restrict competition in the rapidly advancing new field of digital wireless communications. We prefer instead to encourage innovation and let the marketplace determine which technologies will become the new standards. One of the first achievements of the Summit process was to clarify for all of us that each of the competing digital wireless technologies currently being promoted causes some interference with other devices (including medical devices) that use radio frequencies.

In conjunction with the Summit process, the Center for the Study of Wireless Electromagnetic Compatibility (EMC) at the University of Oklahoma is currently investigating the extent to which digital wireless transmissions interfere with hearing aids, and their use by both digital phone users and bystanders, and I understand that initial findings should be available in April. In addition, the University EMC Center has been conducting laboratory studies on the interaction between wireless phones and pacemakers; clinical studies to explore such pacemaker interactions have been funded by another group, Wireless Technology Research, L.L.C., and I understand that results should be available by July of this year. Finally, the University of Oklahoma EMC Center will explore possible interactions between wireless phones and other electronic devices.

The U.S. Food and Drug Administration Center for Devices and Radiological Health (CDRH) is responsible for approving the manufacture and sale of consumer medical devices. CDRH provides guidelines for electromagnetic compatibility to the medical device industry and has the authority to disapprove the marketing of medical devices that fail to comply with its guidelines. Thus, CDRH is very much aware of concerns about electromagnetic compatibility of medical devices, and the FCC has been sharing information informally with the CDRH for several years in an effort to assist CDRH in its efforts.

3. *Section 704 of the [1996 Act] appears to prohibit any local government from regulating the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.*

Do the emissions of Pacific Bell Mobile Services for a proposed PCS network using the GSM technology "comply with the Commission's regulations concerning such emissions"?

PCS transmitters must be type-accepted by the FCC to ensure compliance with technical standards that limit the frequencies used, output power, emissions, spurious radio noise, and other technical parameters. To date we have type-accepted eleven broadband PCS transmitters, ten of which employ GSM technology.

PacBell is required to use type-accepted equipment by Section 24.51 of the Commission's rules. Section 24.813(b) of the Commission's rules directs each applicant for a broadband PCS license to:

(1) submit the information required by the Commission's rules, requests and application forms;
(2) be maintained by the applicant substantially accurate and complete in all significant respects in accordance with the provisions of §1.65 of the Commission's rules and;
(3) show compliance with and make all special showings that may be applicable.

Thus, if the PCS network proposed by Pacific Bell Mobile Services is in compliance with our rules, as it is required to be under the terms of its license, then the emissions of that network do "comply with the Commission's regulations concerning such emissions." In the event of a complaint of interference or of other concerns about the emissions from a PCS transmitter, FCC compliance staff could be contacted, and could take measurements at the transmitter site to determine if the PCS transmitter was the source of interference and whether the system parameters are in compliance with our rules.

It might be helpful for you to have the address of our San Diego field office: 4542 Ruffner Street, Room 370, San Diego, California 92111-2216. The District Director is Mr. William H. (Hal) Grigsby, and he can be reached at (619) 467-0549. In addition, the FCC maintains a Communications and Crisis Management Center which is staffed 24 hours a day, seven days a week. The telephone number there is (202) 632-6975. The Watch Officer who answers the phone at that number can contact any of our compliance personnel at any time in the event of an emergency, such as a threat to public health or safety, and dispatch personnel to the scene, typically within a few hours, if necessary.

4. *Does the FCC believe that any prohibitions enacted under 47 U.S.C. 332(c)(7)(B)(iv) apply to modulation interference as well as radio interference?*

Neither the Communications Act nor the FCC Rules use the term "modulation interference." Different technologies use different modulation schemes, and we are not mandating a modulation scheme for PCS. We do consider modulation part of the "emission" over which we have authority under the Communications Act. Therefore, we would not agree with a statement that "Section 704(a) does not preempt states and cities from regulating antenna placement on the grounds of radio frequency modulation."

5. *To what extent has the Congress and FCC preempted the City of San Diego from regulating the placement, construction and modification of PCS facilities on the basis of alleged interference to hearing aids, electric wheelchairs, pacemakers, automobile brakes, automobile brakes, automobile airbags, and other devices?*

Section 704 of the 1996 Act expressly preempts local governmental regulation of the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions. 47 U.S.C. § 332(c)(7)(B)(iv). We already have guidelines in place for evaluating the environmental effects of radiofrequency radiation from FCC-regulated transmitters and facilities and specific limits on PCS emissions, power and field strength. See 47 C.F.R. Part 1, Subpart I, and 47 C.F.R. Part 24, Subpart E. The PCS rules that protect against rf hazards are based on a standard adopted in 1992 by the American National Standards Institute ("ANSI"). See Second Report & Order, GEN Docket No. 90-314, 8 FCC Rcd 7700, 7780 ¶¶ 191-92 (1993); 47 C.F.R. § 24.52.

Section 704 of the 1996 Act also states that the regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof shall not unreasonably discriminate among providers of functionally equivalent services and shall not prohibit or have the effect of prohibiting the provision of personal wireless services. 47 U.S.C. § 332(c)(7)(B)(i). This section establishes procedures for action (and appeal of such action) on requests for authorization to place, construct, or modify personal wireless service facilities. Id. § 332(c)(7)(B)(ii), (iii), (iv).

6. *Do Federal Agencies have sole jurisdiction to regulate wireless communications technologies with respect to:*

   a. *radio frequency interference*
   b. *modulation interference*
   c. *low frequency electromagnetic field interference*

which occur as a result of the use of equipment type-accepted for use in the PCS spectrum?

The Communications Act of 1934, as amended, provides the FCC exclusive jurisdiction over radio frequency interference ("RFI"). See 47 U.S.C. §§ 152(a), 301, 302(a), 303(f). The legislative history of Section 302(a) states explicitly that the Commission has exclusive authority to regulate RFI:

> The Conference Substitute is further intended to clarify the reservation of exclusive jurisdiction to the Federal Communications Commission over matters involving RFI. Such matters shall not be regulated by local or state law, nor shall radio transmitting be subject to local or state regulation as part of any effort to resolve an RFI complaint.

H.R. Rep. No. 765, 97th Cong., 2d Sess. 33 (1982), reprinted at 1982 U.S. Code Cong. & Ad. News 2277. See also Broyde v. Gotham Tower, Inc., 13 F.3d 994, 997-98 (6th Cir. 1993); Still v. Michaels, 791 F.Supp. 248, 252 (D.Az. 1992); 960 Radio, Inc., FCC 85-578 at 4, 1985 WL 193883, 1985 FCC Lexis 2342 (released No. 4, 1985); Federal Preemption of State and Local Regulations Pertaining to Amateur Radio Facilities, 101 F.C.C. 2d 952, 960 (1985).

Neither the Communications Act nor the FCC Rules use the term "modulation interference" or the term "low frequency electromagnetic field interference." These terms appear to describe particular types of radio frequency interference. For example, if a radio signal causes interference, I believe it would be immaterial to our jurisdiction whether the signal is modulated in a particular way or what might be the frequency of the signal (provided the signal is above 9 kHz, which is internationally recognized as the start of the rf spectrum). However, I am not prepared to say definitively whether the Commission would distinguish between these terms and rf interference, as a legal matter, without development of a record on the subject.

The Commission also has exclusive jurisdiction with respect to any complaint under the new statutory provisions mandating access to telecommunications services and equipment by persons with disabilities. Specifically, Section 255 of the Communications Act (added by the 1996 Act) states that manufacturers of telecommunications equipment shall ensure that equipment is designed, developed, and fabricated to be accessible to and usable by individuals with disabilities, if readily achievable. In addition, providers of telecommunications service shall ensure that the service is accessible to and usable by individuals with disabilities, if readily achievable. Whenever these requirements are not readily achievable, manufacturers and service providers shall ensure that their equipment or service is compatible with existing peripheral devices or specialized customer premises

equipment commonly used by individuals with disabilities to achieve access, if readily achievable.

While the Commission will do everything necessary to fulfill its mandate under the ADA and the 1996 Act, we have also made clear that the FCC will not delay deployment of PCS services while we work to solve the interference and compatibility issues. It is important that decisions over siting of PCS facilities not have the effect of prohibiting or delaying the offering of PCS services.

I appreciate the opportunity to answer your very good questions. The FCC will not be able to send a representative to the City Council hearing on March 19, but I will be happy to keep you informed as we proceed. In addition, I expect that any information provided by the Summit group to the Commission on hearing aid compatibility and interference will be available to the public.

Sincerely,

Reed E. Hundt